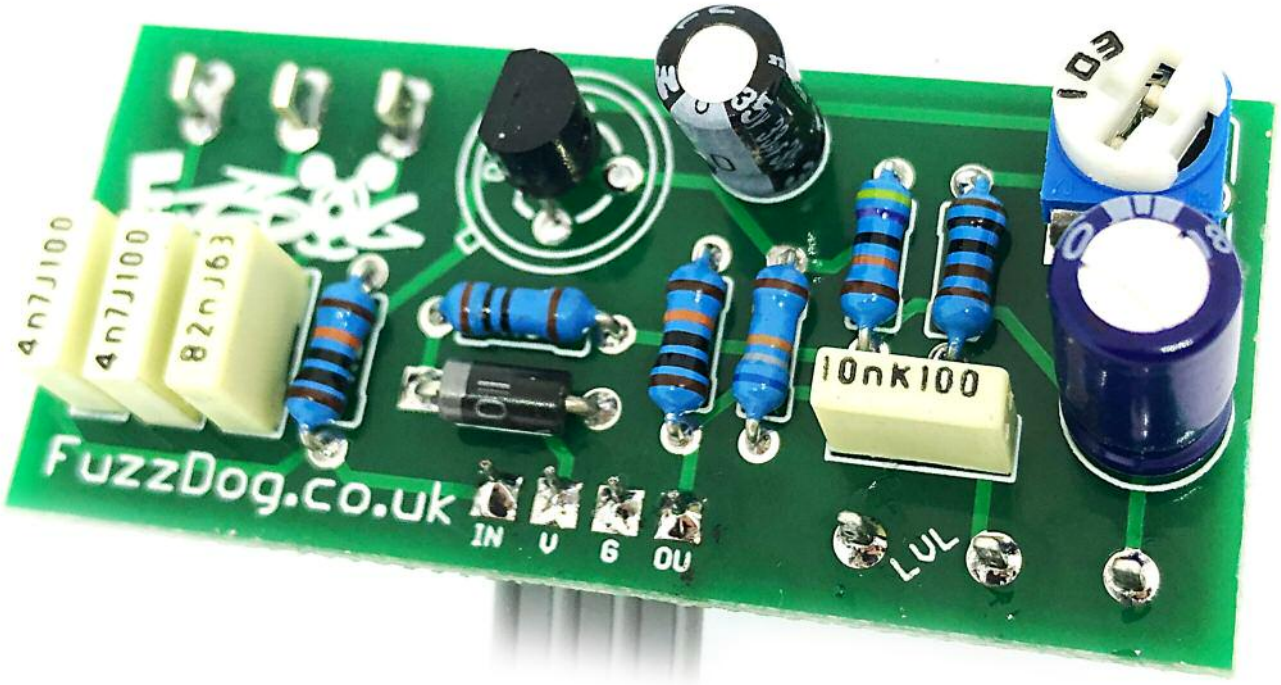


Texas Treble

Diaz Texas Ranger and a more recent clone of the same

Important notes

If you're using any of our footswitch daughterboards, DOWNLOAD THE DAUGHTERBOARD DOCUMENT

- Download and read the appropriate build document for the daughterboard as well as this one BEFORE you start.
- DO NOT solder the supplied Current Limiting Resistor (CLR) to the main circuit board even if there is a place for it. This should be soldered to the footswitch daughterboard.

POWER SUPPLY

Unless otherwise stated in this document this circuit is designed to be powered with 9V DC.

COMPONENT SPECS

Unless otherwise stated in this document:

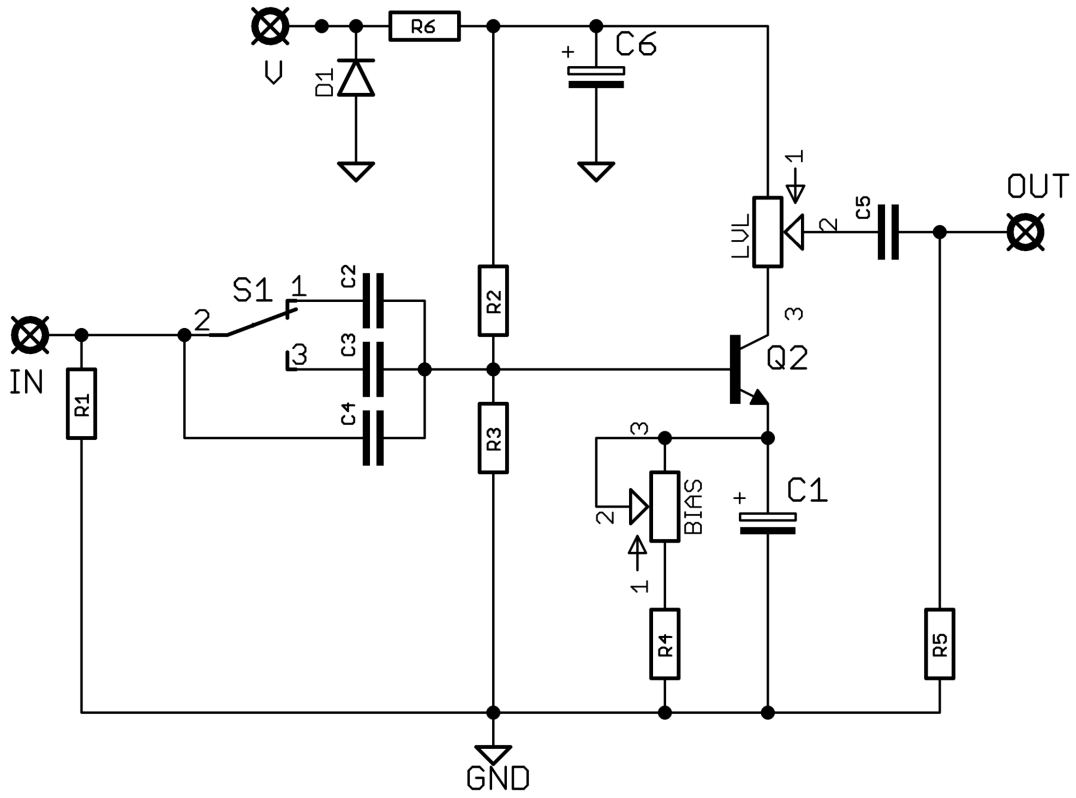
- Resistors should be 0.25W. You can use those with higher ratings but check the physical size of them.
- Electrolytics caps should be at least 25V for 9V circuits, 35V for 18V circuits. Again, check physical size if using higher ratings.

LAYOUT CONVENTIONS

Unless otherwise stated in this document, the following are used:

- **Electrolytic capacitors:**
  Long leg (anode) to square pad.
- **Diodes/LEDs:**
  Striped leg (cathode) to square pad. Short leg to square pad for LEDs.
- **ICs:**
  Square pad indicates pin 1.

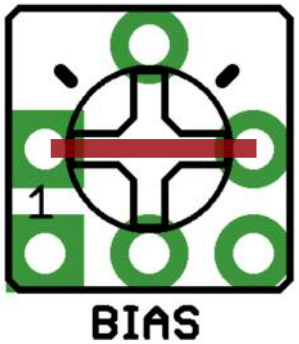
Schematic + BOM

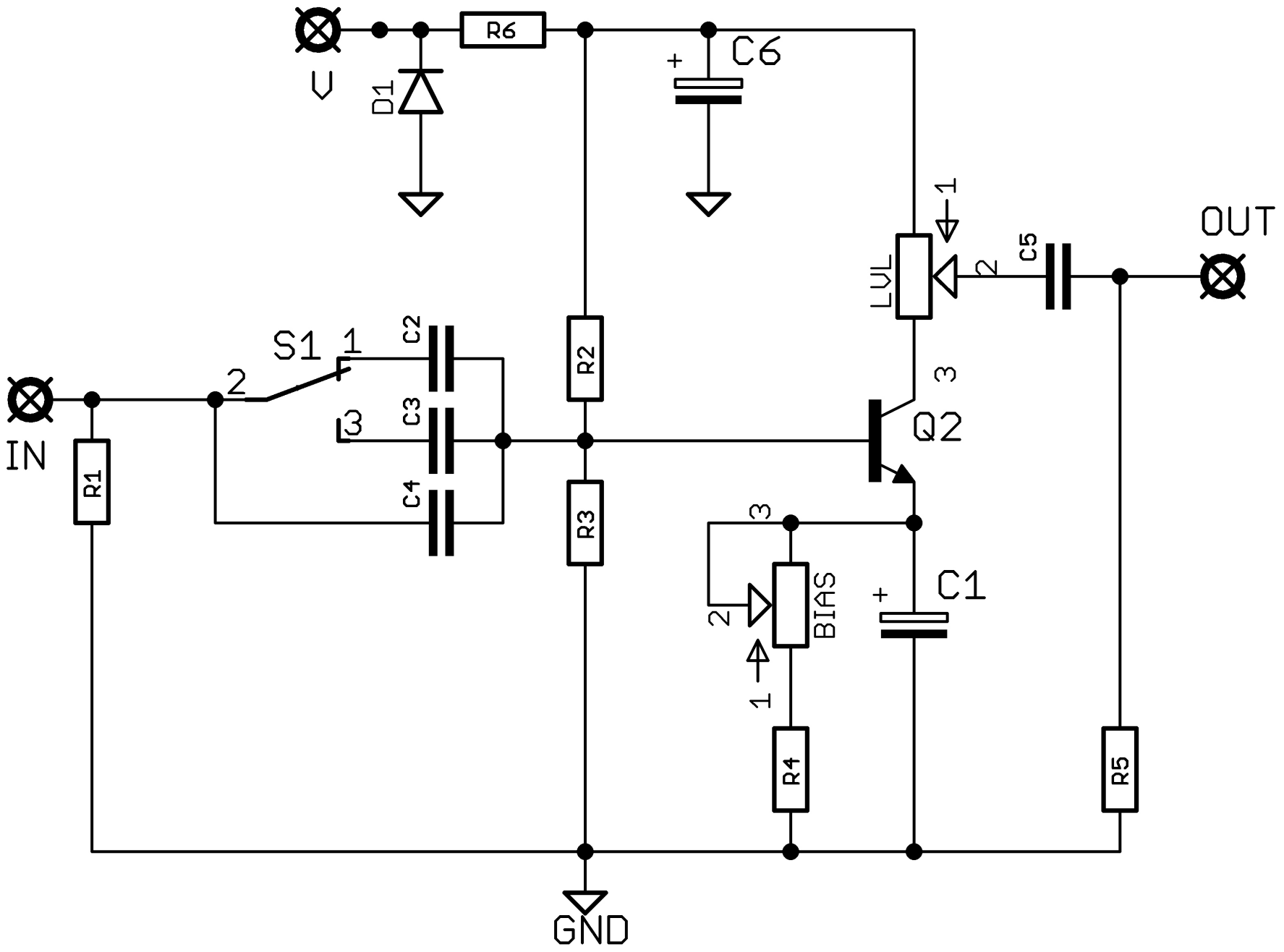


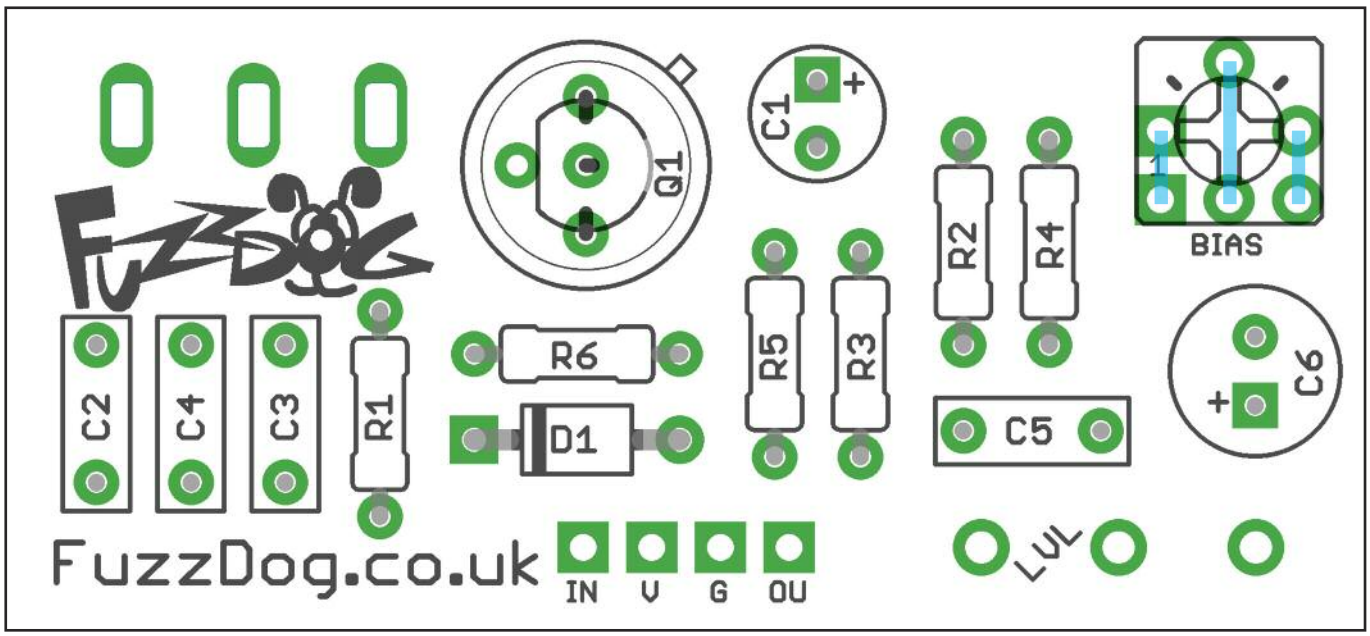
R1	100K
R2	470K
R3	68K
R4	1K
R5	100K
R6	10R
C1	33u elec
C2	4n7
C3	82n*
C4	4n7
C5	10n
C6	100u elec
Q1	Your choice**
D1	1N4001
LVL	10KA
BIAS	10K Trim
S1	SPDT on-off-on

*The three-way toggle switch gives you three frequency ranges for the boost. The centre position is the tightest, cutting most bottom end. With switch to the left you bring in C2 in parallel with C4, giving you just under 10n on the input, allowing more bottom. To the right you have C3 in the mix. With the standard value here you have around 87nf, which is pretty much full range for guitar. Our opinion is - myeh. It's just a normal boost, and to be honest it sounds a bit overwhelmed by the extra range. We recommend 15-22n here to make sure some bottom is still being filtered.

**You can use pretty much any NPN BJT here. We use 2N3904 for a silicon option, and have tried it with AC176 for germanium. We've included a bias trimmer in the design so you can tweak the bias of the transistor. In the original circuit this is a fixed 4K7 resistor. If you'd rather stick with that, replace R4 with 4K7 and add a jumper in place of BIAS.




V
R6
D1
C6
+
1
LVL
2
C5
OUT
S1
1
2
3
C2
C3
C4
R2
IN
R1
Q2
3
R3
3
2
BIAS
1
+
C1
R4
R5
GND



The power and signal pads on the PCB conform to the FuzzDog Direct Connection format, so can be paired with the appropriate daughterboard for quick and easy offboard wiring. Check the separate daughterboard document for details.

Be very careful when soldering the transistor and diode. They're very sensitive to heat. You should use some kind of heat sink (crocodile clip or reverse action tweezers) on each leg as you solder them. Keep exposure to heat to a minimum (under 2 seconds).

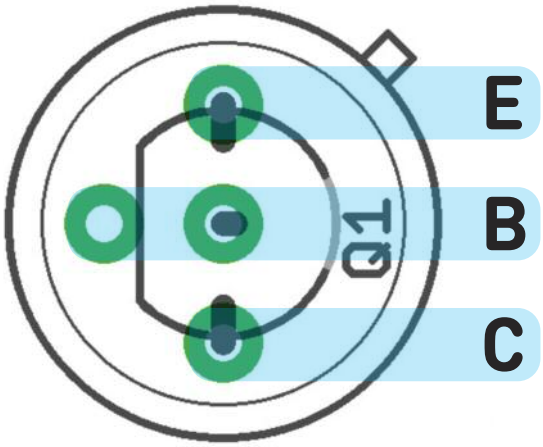
You should solder all other board-mounted components before you solder the pot. Once it's in place you'll have no access to much of the board.

Snap the small metal tag off the pot so it can be mounted flush in the box.

There are extra pins for the bias trimmer to allow different footprints to be used. They are connected with traces within the PCB as shown above, so you just need to ensure you have one pin of your trimmer in each column.

Transistor pinouts

There's an extra pad for the base pin to make it easier to mount some germaniun transistors. The pins are:



The outline for the smaller transistor shown is the correct orientation for 2N3904, 2N5088 etc.

Biasing

If you're using the trimmer, set this in the centre position. Tweak it until you get the balance of boost and break-up you want.

Test the board!

Check the relevant daughterboard document for more info before you undertake this stage.

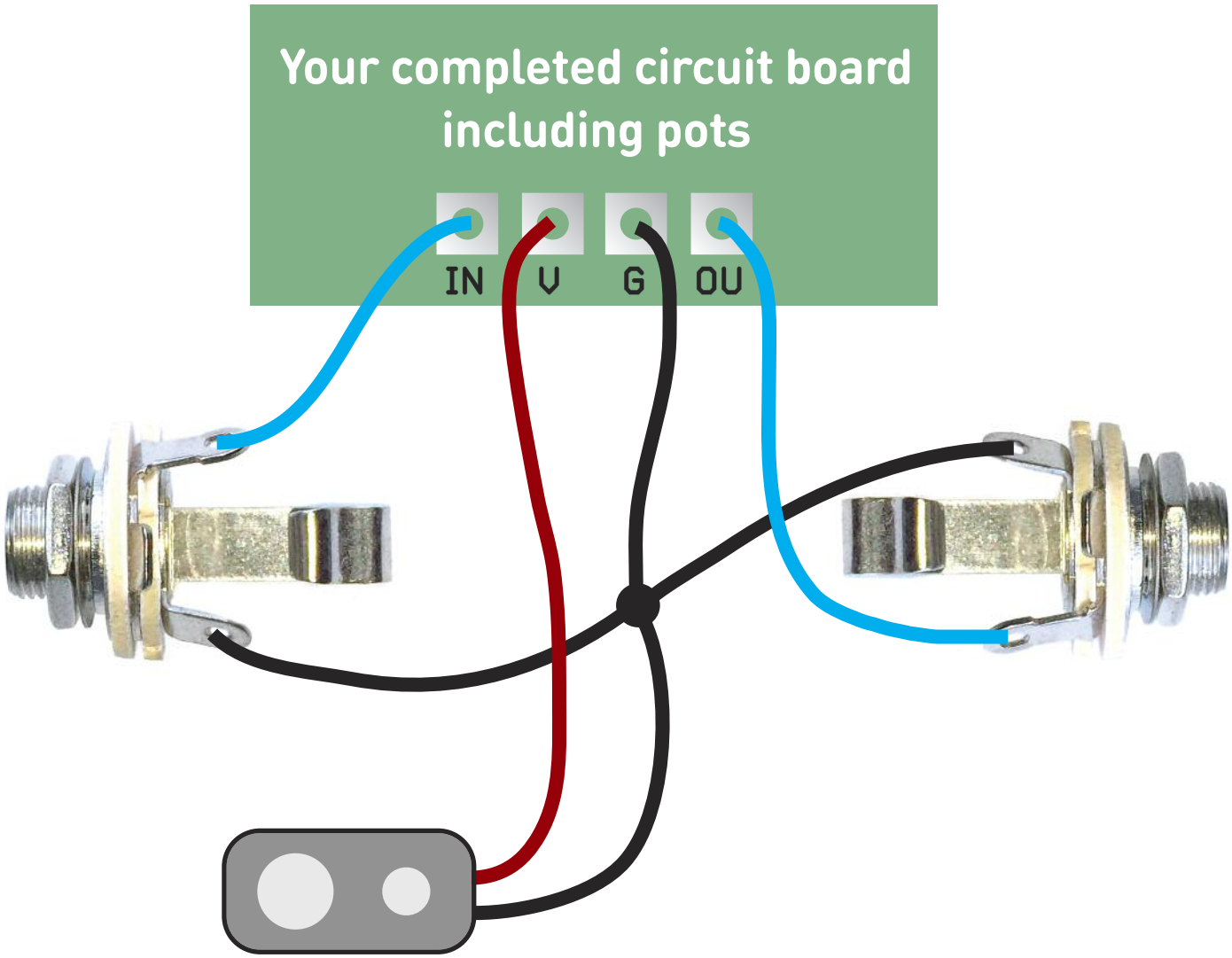
UNDER NO CIRCUMSTANCES will troubleshooting help be offered if you have skipped this stage. No exceptions.

Once you've finished the circuit it makes sense to test is before starting on the switch and LED wiring. It'll cut down troubleshooting time in the long run. If the circuit works at this stage, but it doesn't once you wire up the switch - guess what? You've probably made a mistake with the switch.

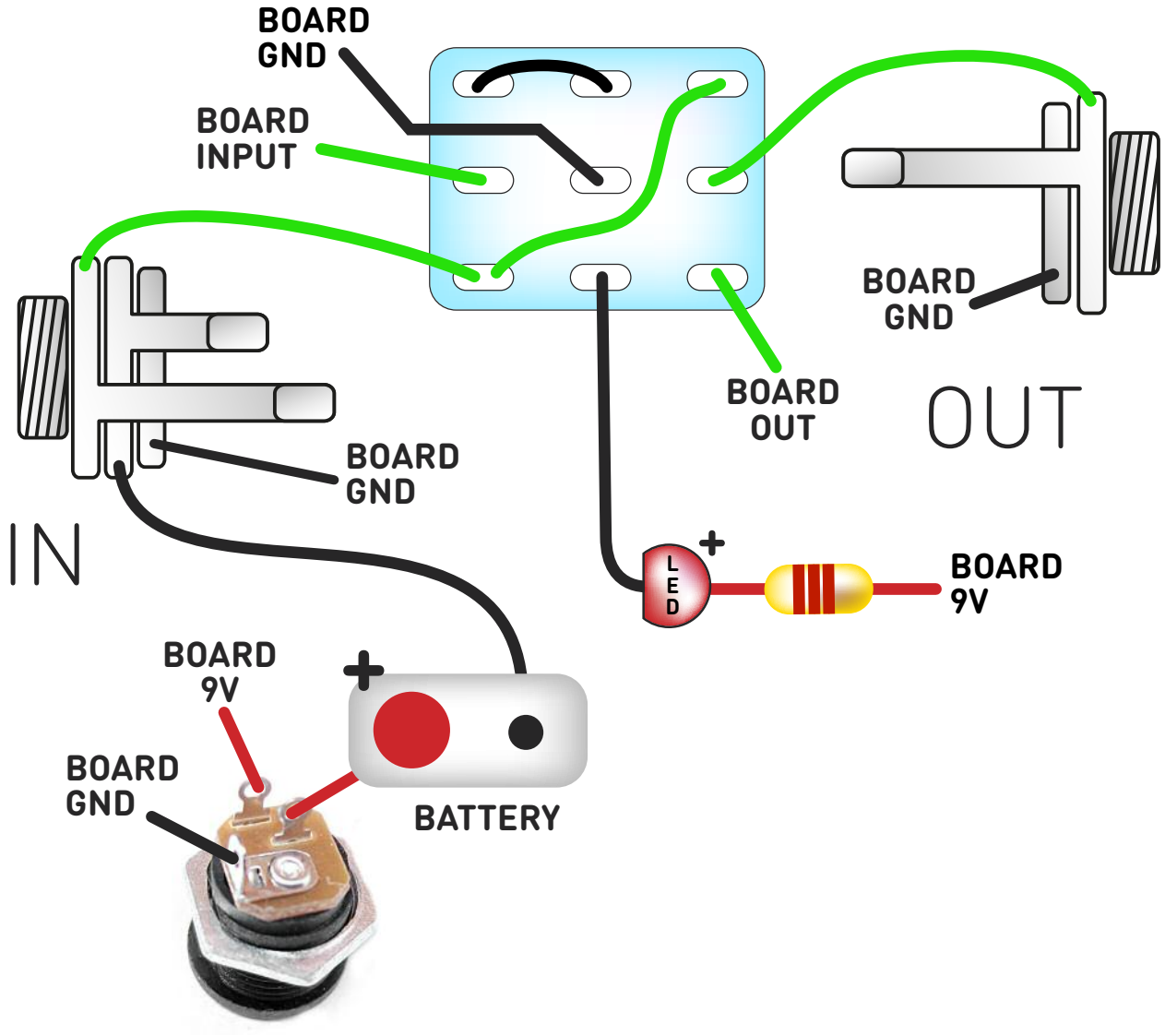
Solder some nice, long lengths of wire to the board connections for 9V, GND, IN and OUT. Connect IN and OUT to the jacks as shown. Connect all the GNDs together (twist them up and add a small amount of solder to tack it). Connect the battery + lead to the 9V wire, same method. Plug in. Go!

If you're using a ribbon cable you can tack the wires to the ends of that. It's a lot easier to take them off there than it is do desolder wires from the PCB pads.

If it works, carry on and do your switch wiring. If not... aw man. At least you know the problem is with the circuit. Find out why, get it working, THEN worry about the switch etc.



Wire it up (if using a daughterboard please refer to the relevant document)



Wiring shown above will disconnect the battery when you remove the jack plug from the input, and also when a DC plug is inserted.

The Board GND connections don't all have to directly attach to the board. You can run a couple of wires from the DC connector, one to the board, another to the IN jack, then daisy chain that over to the OUT jack.

It doesn't matter how they all connect, as long as they do.

This circuit is standard, Negative GND. Your power supply should be Tip Negative / Sleeve Positive. That's the same as your standard pedals (Boss etc), and you can safely daisy-chain your supply to this pedal.

Drilling template

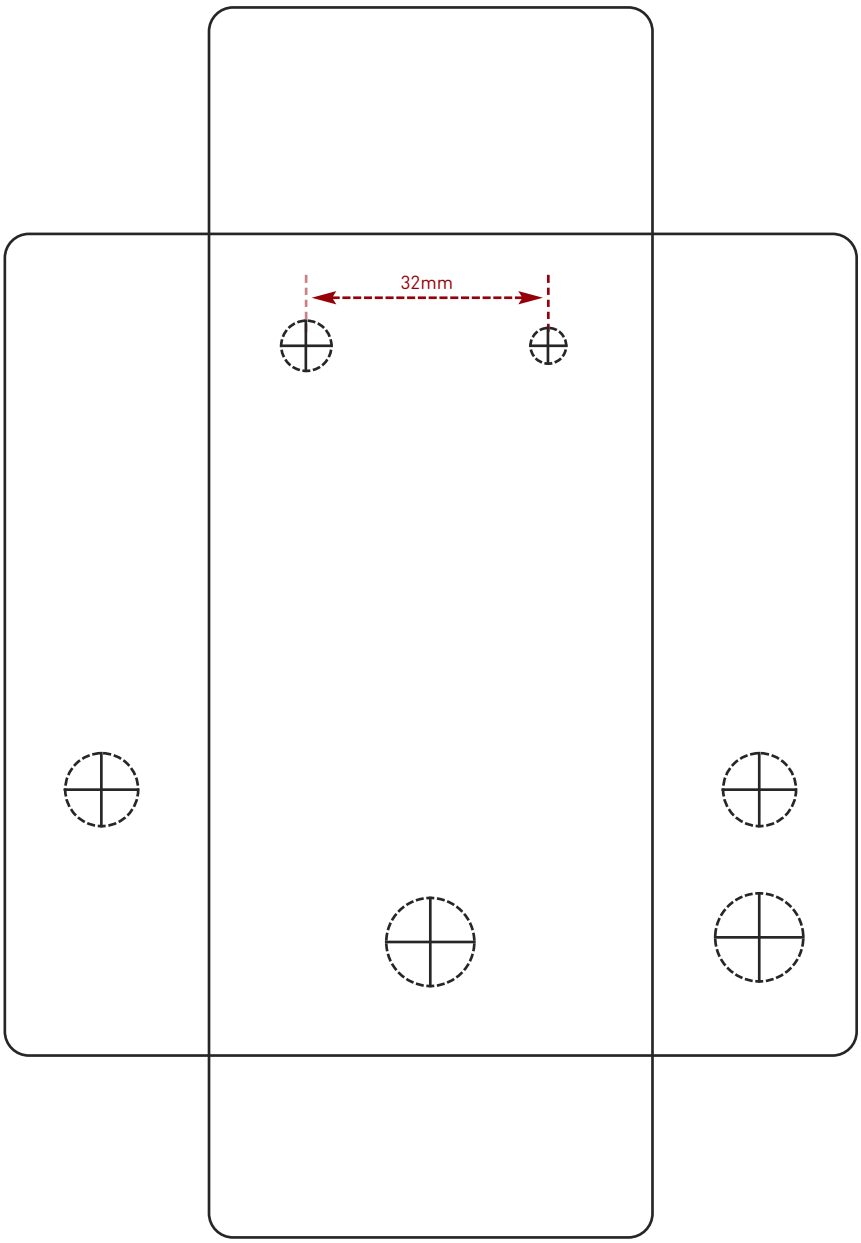
Hammond 1590B

60 x 111 x 31mm

It's a good idea to drill the pot and toggle switch holes 1mm bigger if you're board-mounting them.
Wiggle room = good!

Recommended drill sizes:

Pots	7mm
Jacks	10mm
Footswitch	12mm
DC Socket	12mm
Toggle switches	6mm



This template is a rough guide only. You should ensure correct marking of your enclosure before drilling. You use this template at your own risk.
Pedal Parts Ltd can accept no responsibility for incorrect drilling of enclosures.

FuzzDog.co.uk